

## Formal Drawing Formal Drawing 2 4 02 PATENT APPLICATION ASS

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

fire application of:

Satoru HOSONO, et al.

Appln. No.: 09/942,764

Group Art Unit: 2853

Confirmation No.: 9203

Examiner: Not Yet Assigned

Filed: August 31, 2001

For: INK JET RECORDING HEAD, METHOD OF MANUFACTURING THE SAME,

METHOD OF DRIVING THE SAME, AND INK JET RECORDING APPARATUS

INCORPORATING THE SAME

## SUBMISSION OF FORMAL DRAWINGS

Commissioner for Patents Washington, D.C. 20231

Sir:

Submitted herewith please find seventeen (17) sheets of formal drawings. The Examiner

is respectfully requested to acknowledge receipt of these formal drawings.

Respectfully submitted,

SUGHRUE MION, PLLC

2100 Pennsylvania Avenue, N.W. Washington, D.C. 20037-3213

Telephone: (202) 293-7060

Facsimile: (202) 293-7860

DM/ob

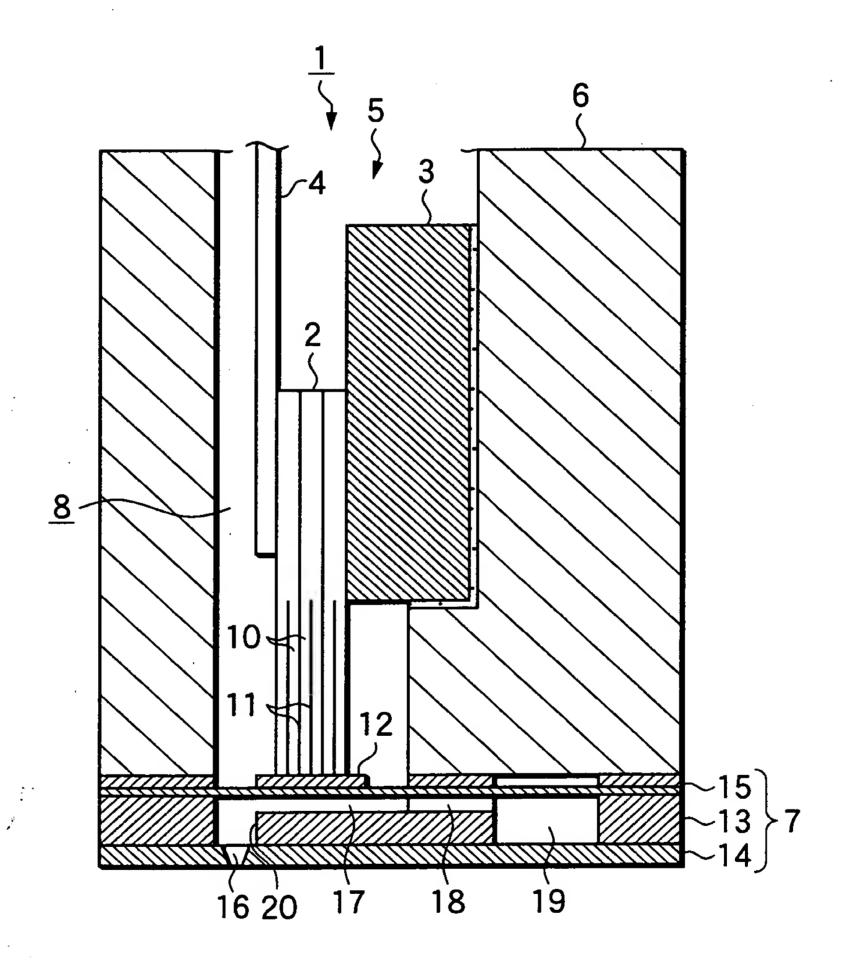
Date: December 6, 2001

Darryl Mexic

Registration No. 23,063

HOSONO, et al. Q66059
INK JET RECORDING HEAD, METHOD OF
MANUFACTURING THE SAME, METHOD OF DRIVING
THE SAME, AND INK JET RECORDING APPARATUS
INCORPORATING THE SAME
Filed: December 6, 2001
Darryl Mexic 202-293-7060
1 of 17

FIG.1



HOSONO, et al. Q66059
INK JET RECORDING HEAD, METHOD OF
MANUFACTURING THE SAME, METHOD OF DRIVING
THE SAME, AND INK JET RECORDING APPARATUS
INCORPORATING THE SAME
Filed: December 6, 2001
Darryl Mexic 202-293-7060
2 of 17

FIG.2

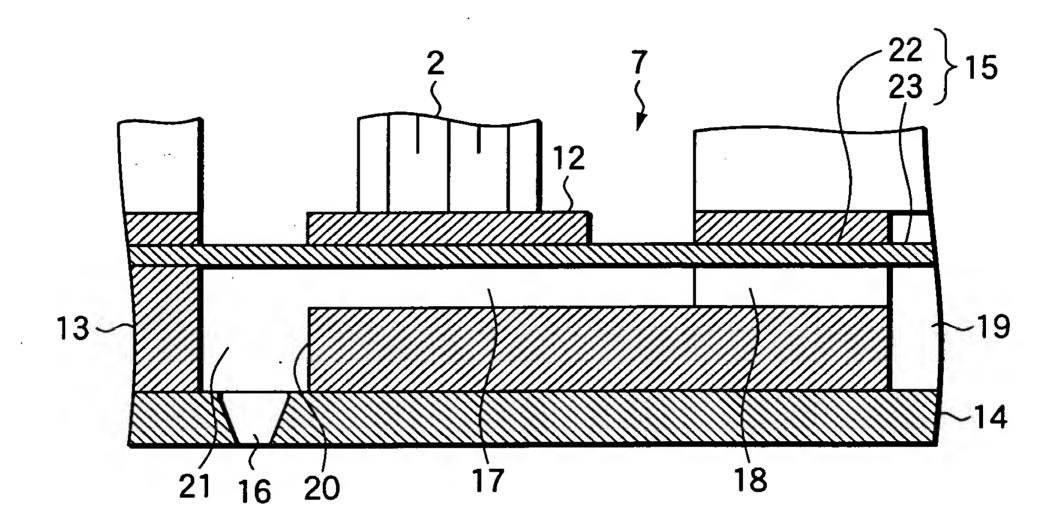
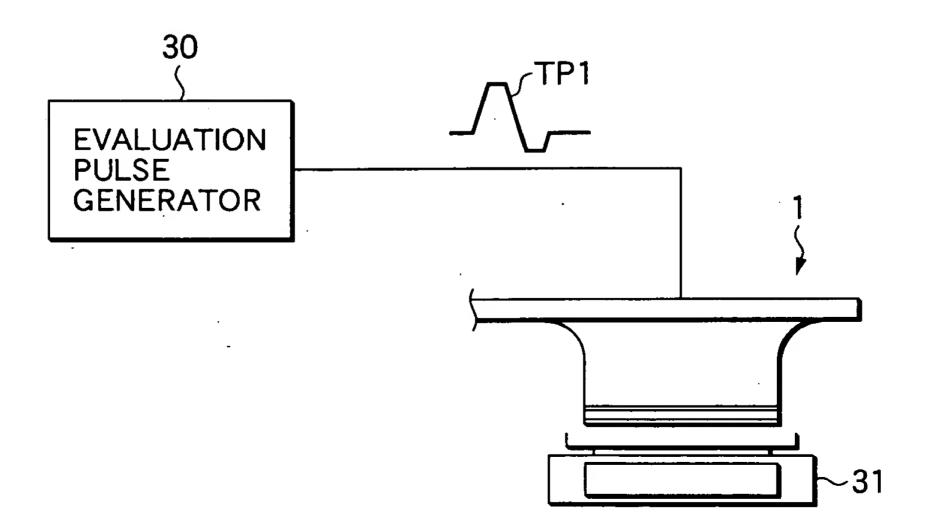


FIG.3



HOSONO, et al.

Q66059
INK JET RECORDING HEAD, METHOD OF
MANUFACTURING THE SAME, METHOD OF DRIVER
THE SAME, AND INK JET RECORDING APPARAINCORPORATING THE SAME
Filed: December 6, 2001
Darryl Mexic
3 of 17

FIG.4

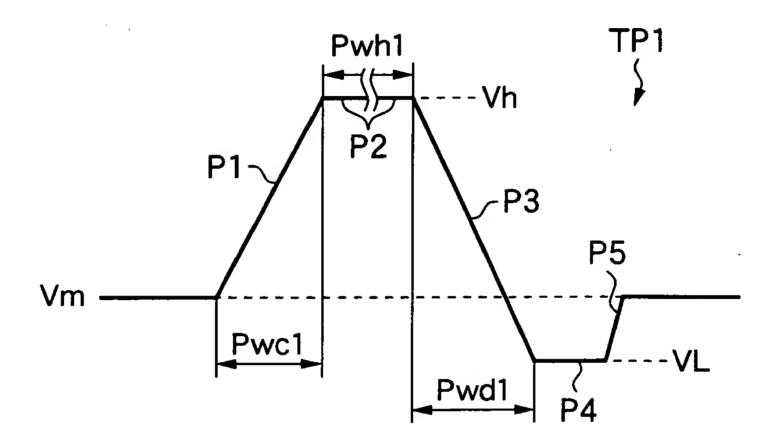
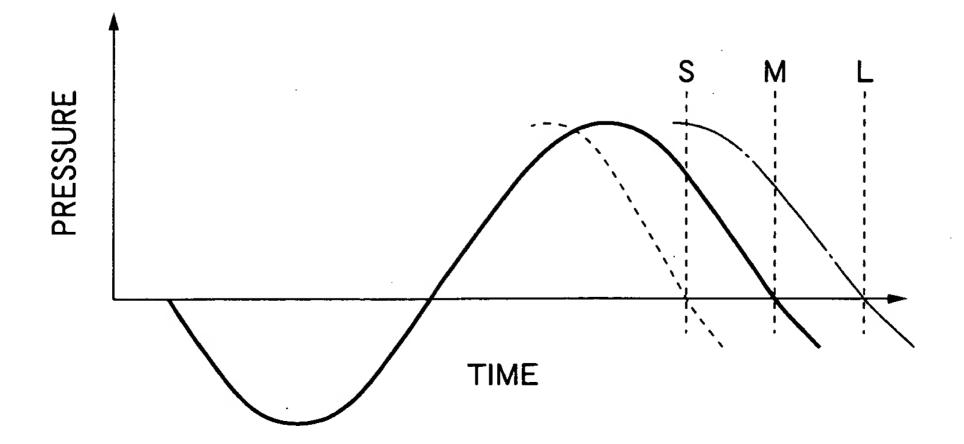


FIG.5





HOSONO, et al. Q66059
INK JET RECORDING HEAD, METHOD OF
MANUFACTURING THE SAME, METHOD OF DRIVING
THE SAME, AND INK JET RECORDING APPARATUS
INCORPORATING THE SAME

Filed: December 6, 2001 Darryl Mexic 4 of 17

202-293-7060



FIG.6

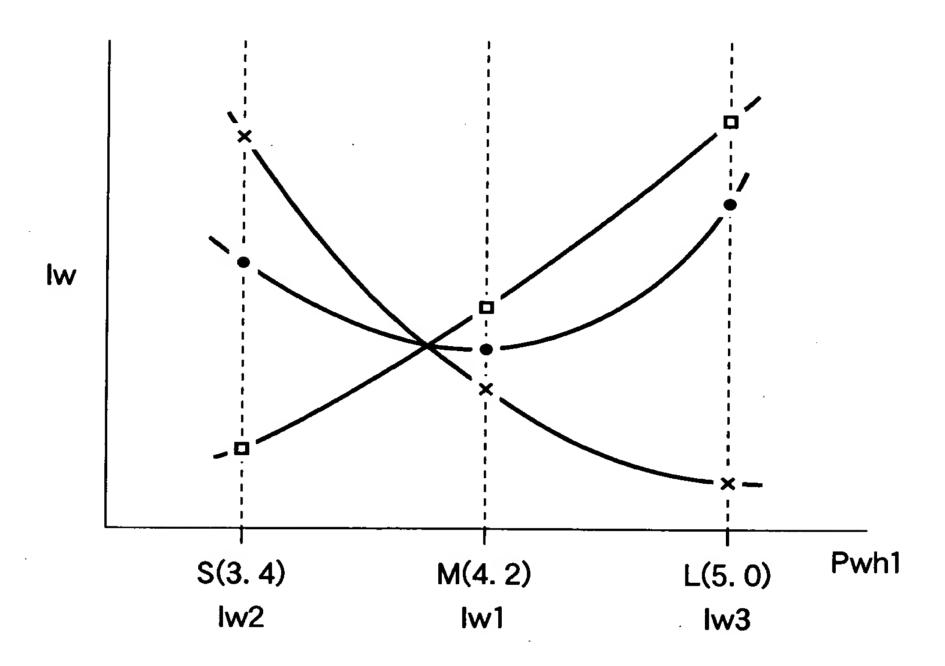


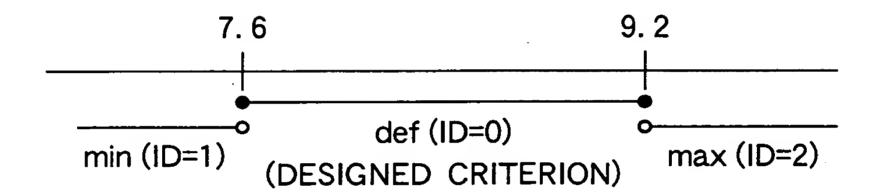
FIG.7

		lw	
Tc RANK ID	0	lw2 > lw1 < lw3	<b>~</b>
		lw2 > lw1 = lw3	•
		lw2 = lw1 < lw3	•••
	1	lw2 < lw1 < lw3	ممو
	2	lw2 > lw1 > lw3	1
	ERROR	lw2 = lw1 = lw3	•••
		lw2 = lw1 > lw3	•
		lw2 < lw1 = lw3	•••
		lw2 < lw1 > lw3	<b>^</b>

\*\*\*\*

HOSONO, et al. Q66059
INK JET RECORDING HEAD, METHOD OF
MANUFACTURING THE SAME, METHOD OF DRIVING
THE SAME, AND INK JET RECORDING APPARATUS
INCORPORATING THE SAME
Filed: December 6, 2001
Darryl Mexic 202-293-7060
5 of 17

FIG.8



HOSONO, et al. Q66059
INK JET RECORDING HEAD, METHOD OF
MANUFACTURING THE SAME, METHOD OF DRIVING
THE SAME, AND INK JET RECORDING APPARATUS
INCORPORATING THE SAME
Filed: December 6, 2001
Darryl Mexic 202-293-7060
6 of 17

FIG.9

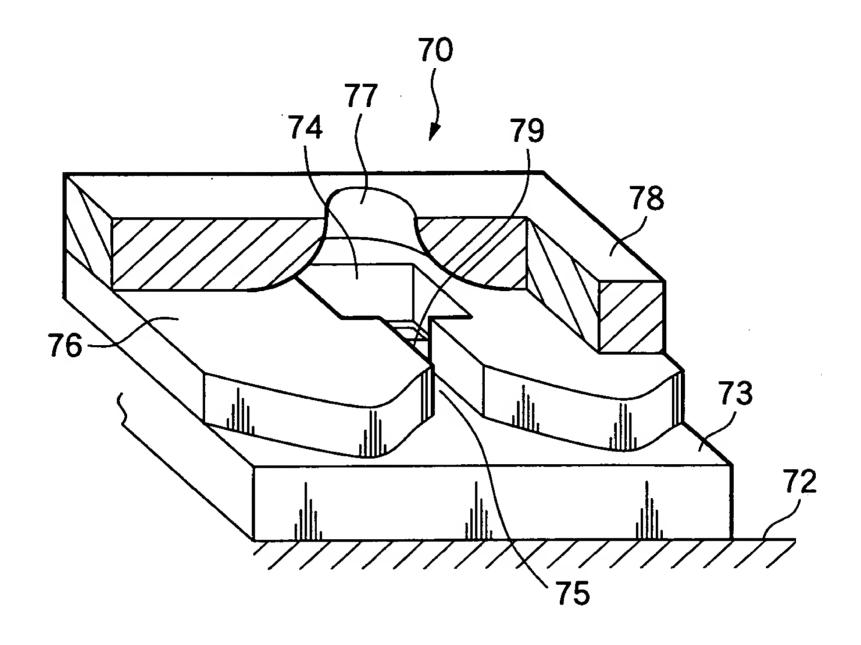
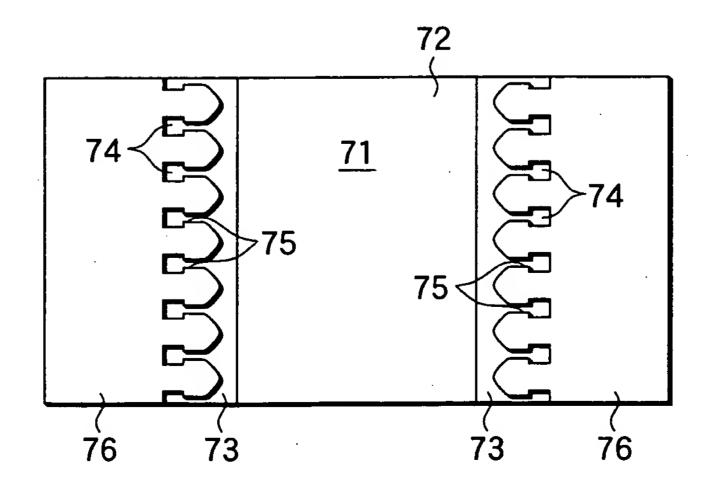


FIG.10



HOSONO, et al. Q66059
INK JET RECORDING HEAD, METHOD OF
MANUFACTURING THE SAME, METHOD OF DRIVING
THE SAME, AND INK JET RECORDING APPARATUS
INCORPORATING THE SAME
Filed: December 6, 2001
Darryl Mexic 202-293-7060
7 of 17

**FIG.11** 

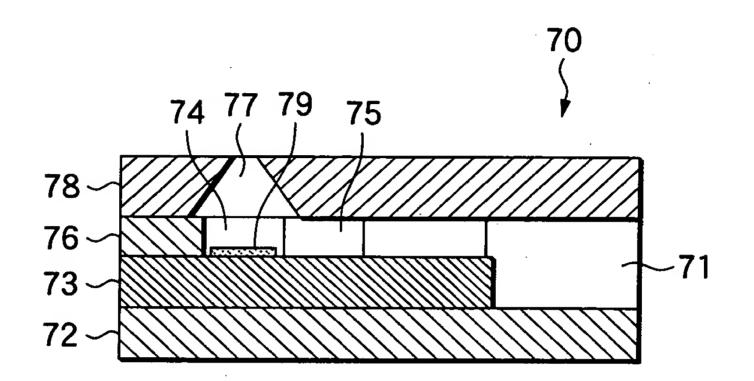
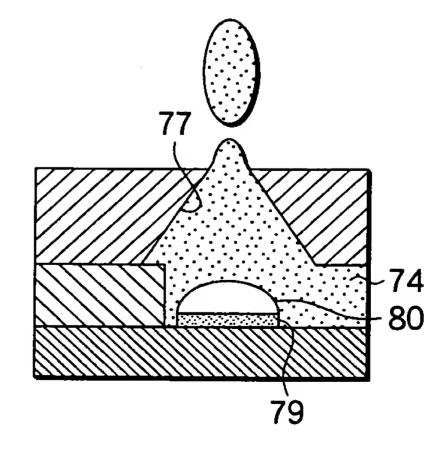


FIG.12A

77

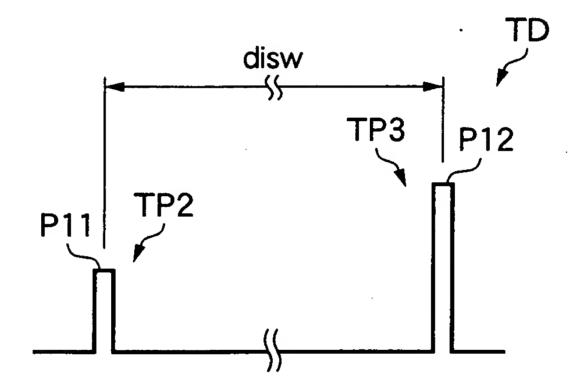
FIG.12B



HOSONO, et al. Q66059
INK JET RECORDING HEAD, METHOD OF
MANUFACTURING THE SAME, METHOD OF DRIVING
THE SAME, AND INK JET RECORDING APPARATUS
INCORPORATING THE SAME
Filed: December 6, 2001
Darryl Mexic 202-293-7060
8 of 17

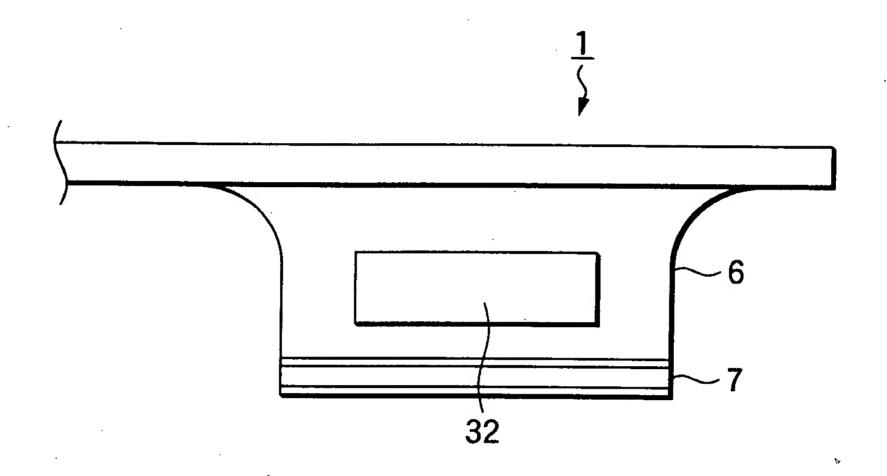
8/17

## **FIG.13**

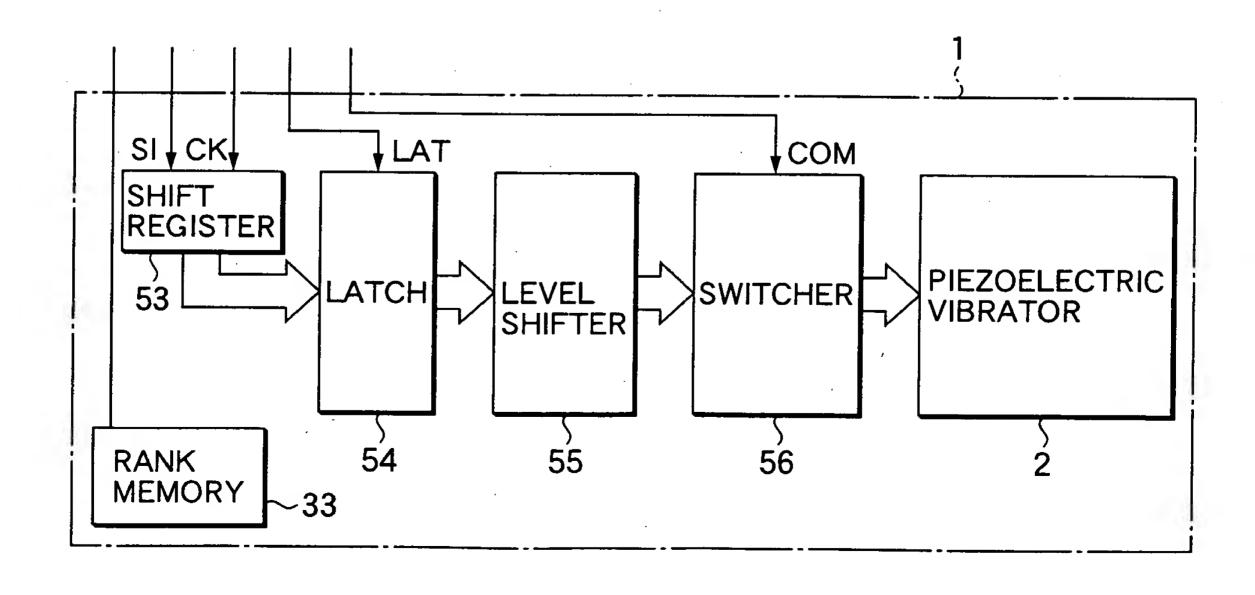


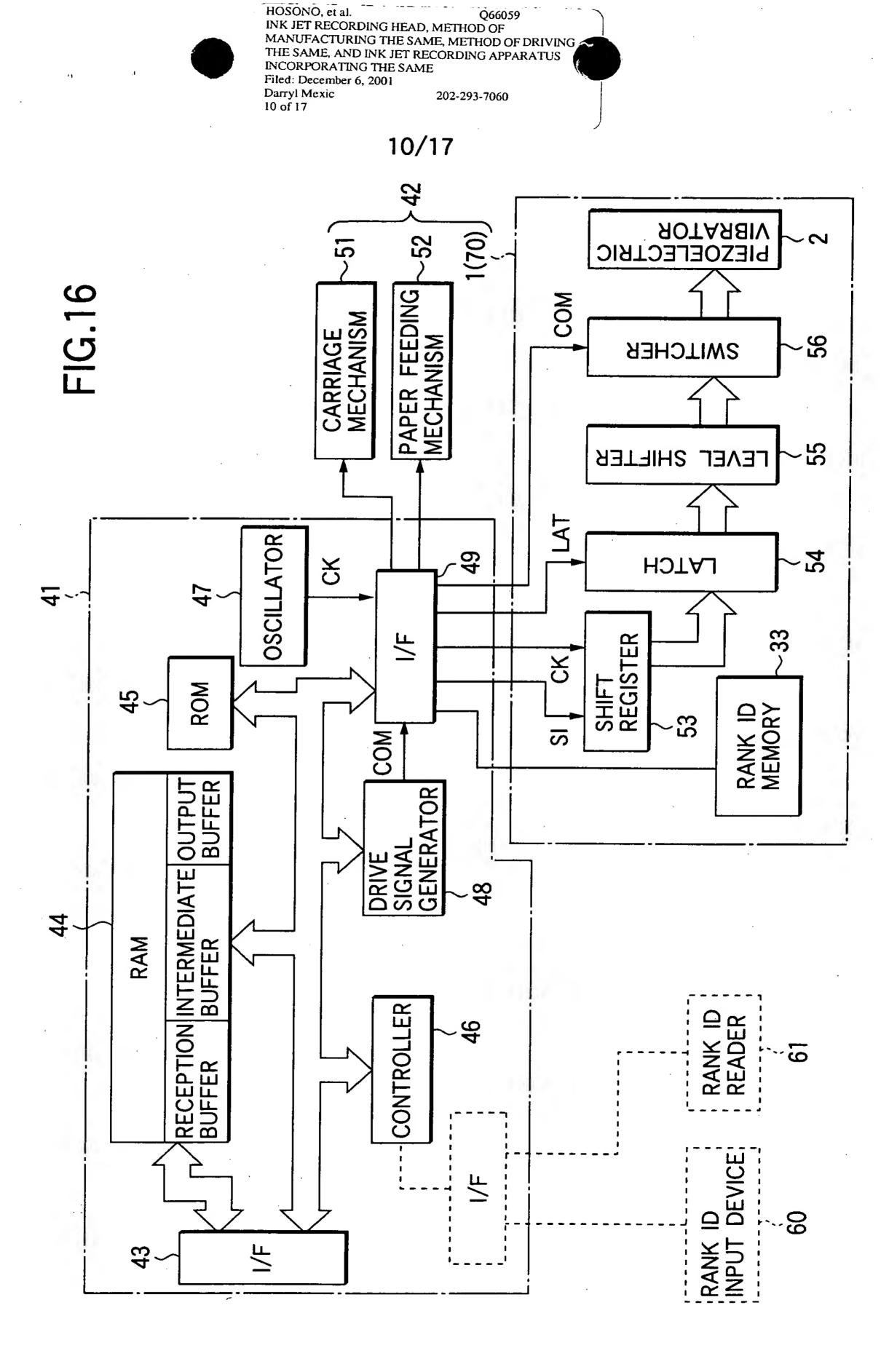
HOSONO, et al. Q66059
INK JET RECORDING HEAD, METHOD OF
MANUFACTURING THE SAME, METHOD OF DRIVING
THE SAME, AND INK JET RECORDING APPARATUS
INCORPORATING THE SAME
Filed: December 6, 2001
Darryl Mexic 202-293-7060
9 of 17

FIG.14



**FIG.15** 





HOSONO, et al.

Q66059
INK JET RECORDING HEAD, METHOD OF
MANUFACTURING THE SAME, METHOD OF DRIVING
THE SAME, AND INK JET RECORDING APPARATUS
INCORPORATING THE SAME
Filed: December 6, 2001
Darryl Mexic
11 of 17

11/17

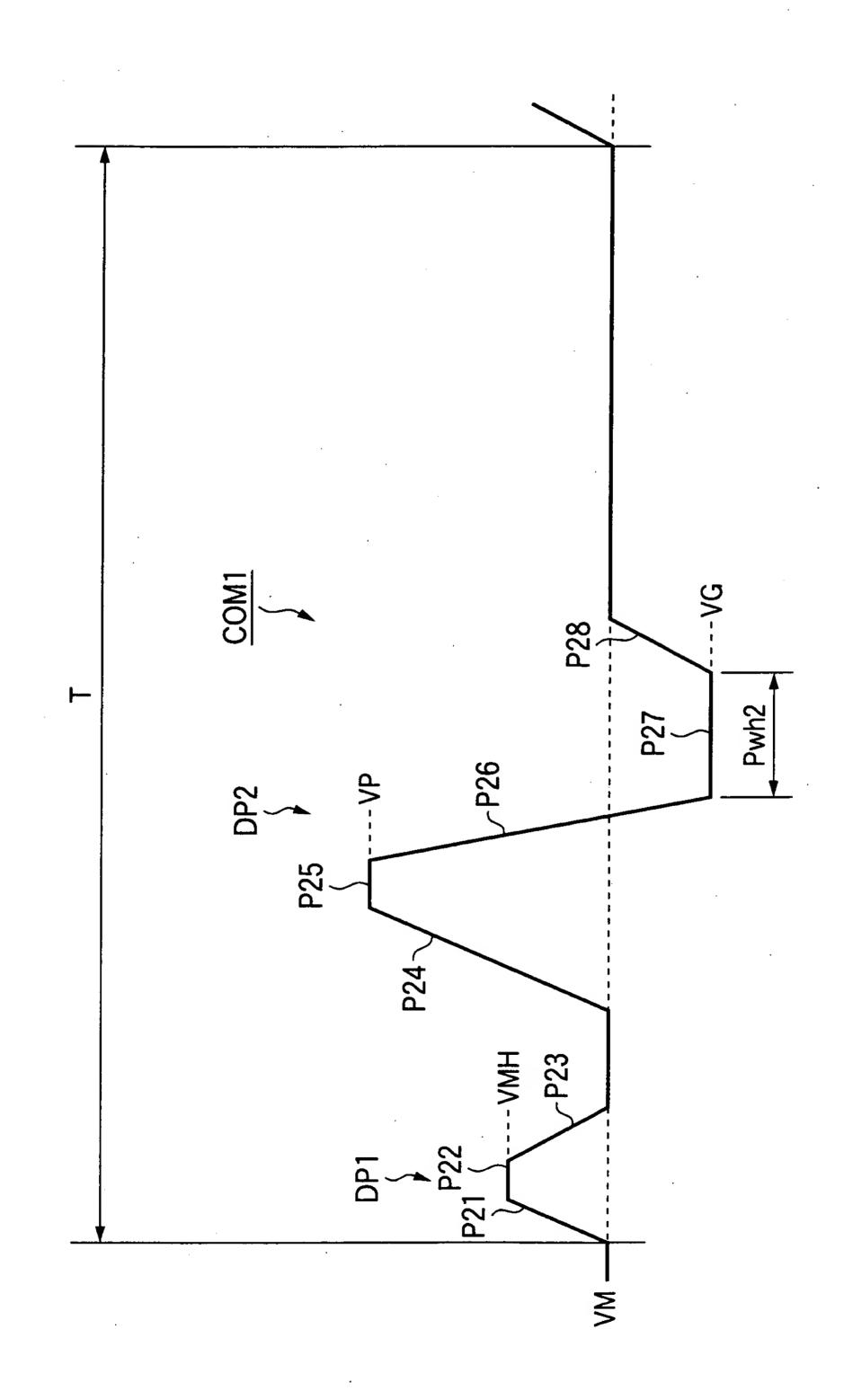
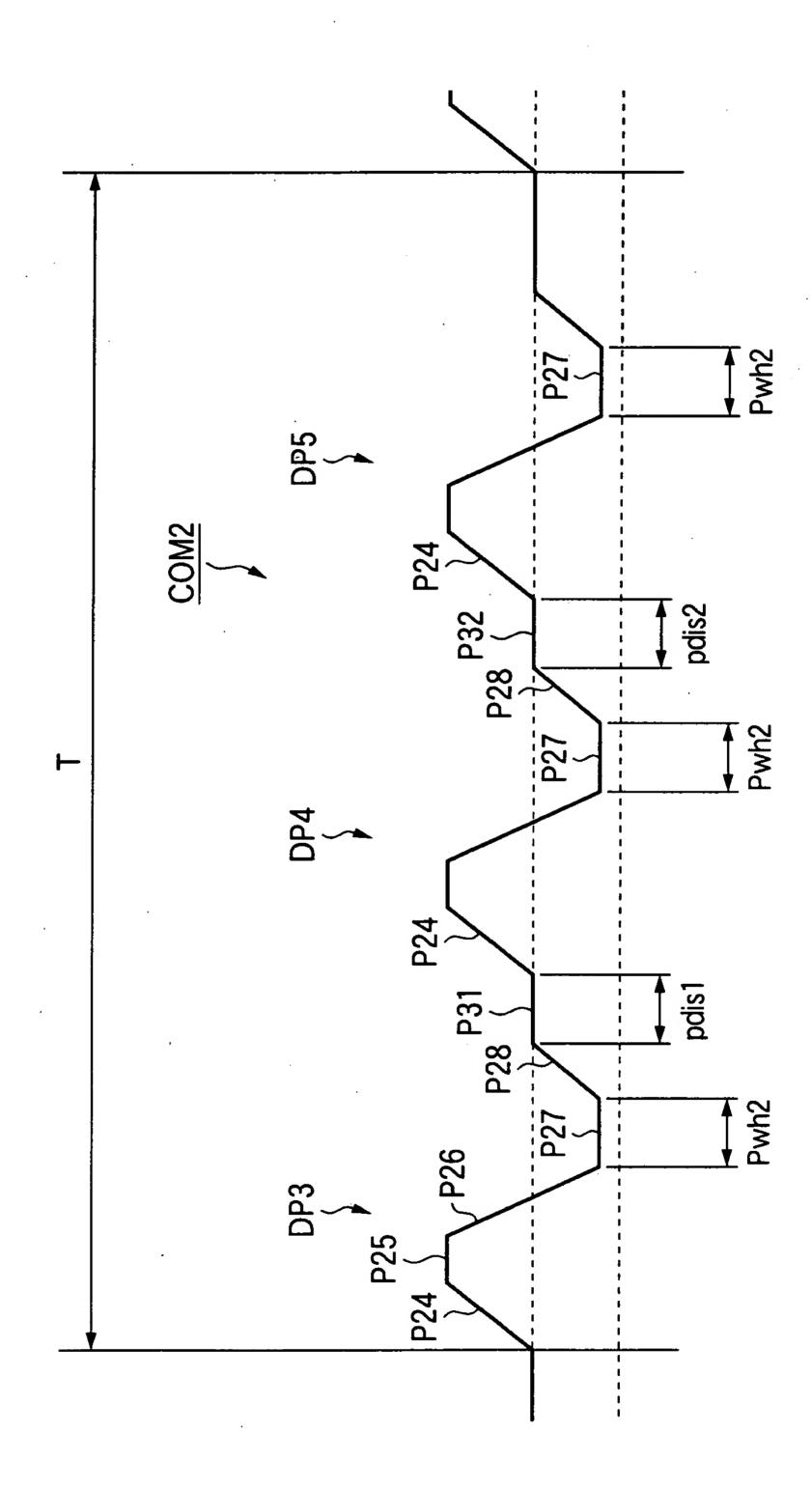


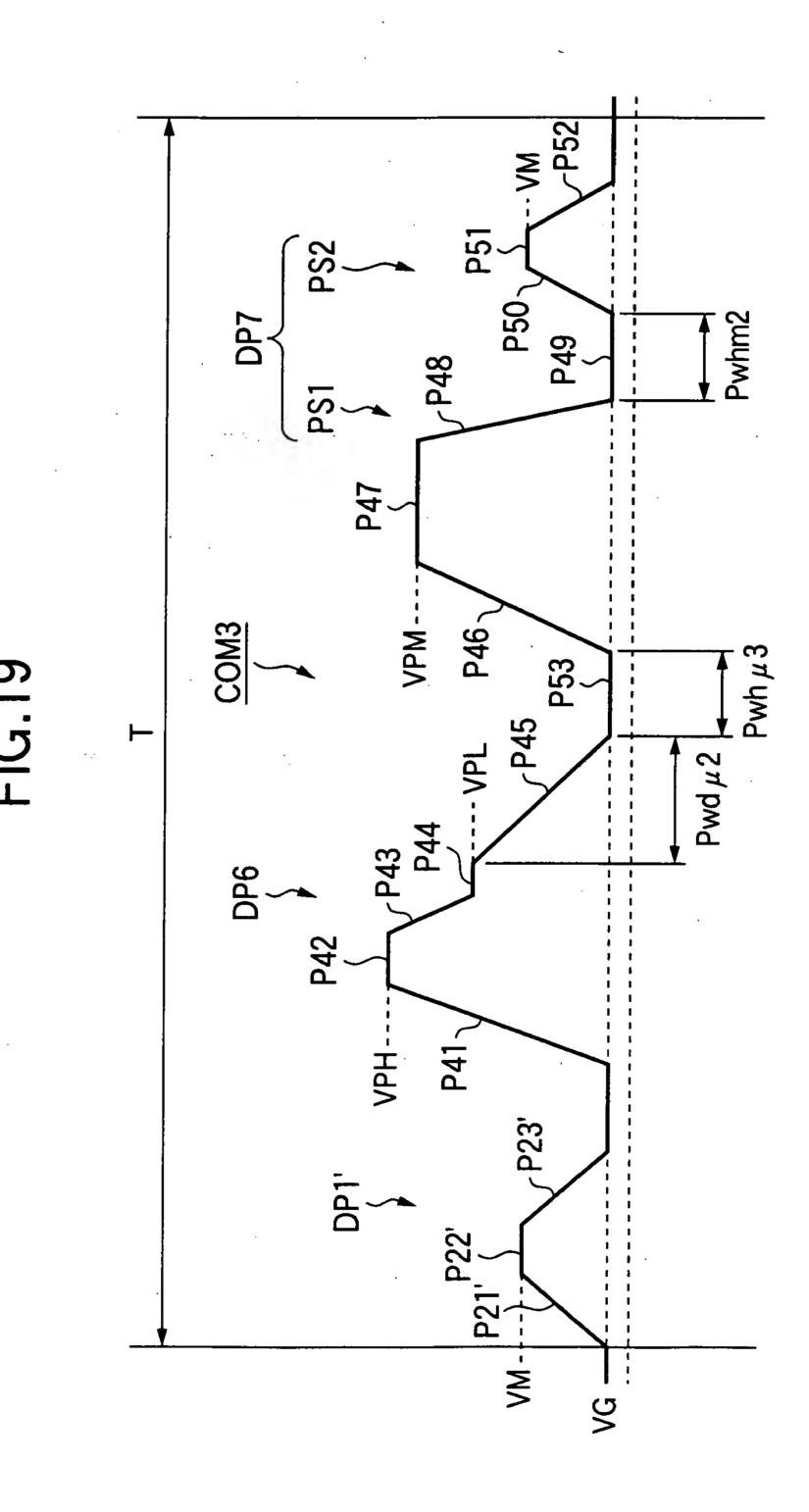
FIG.18

HOSONO, et al. Q66059
INK JET RECORDING HEAD, METHOD OF
MANUFACTURING THE SAME, METHOD OF DRIVING
THE SAME, AND INK JET RECORDING APPARATUS
INCORPORATING THE SAME
Filed: December 6, 2001
Darryl Mexic 202-293-7060
12 of 17



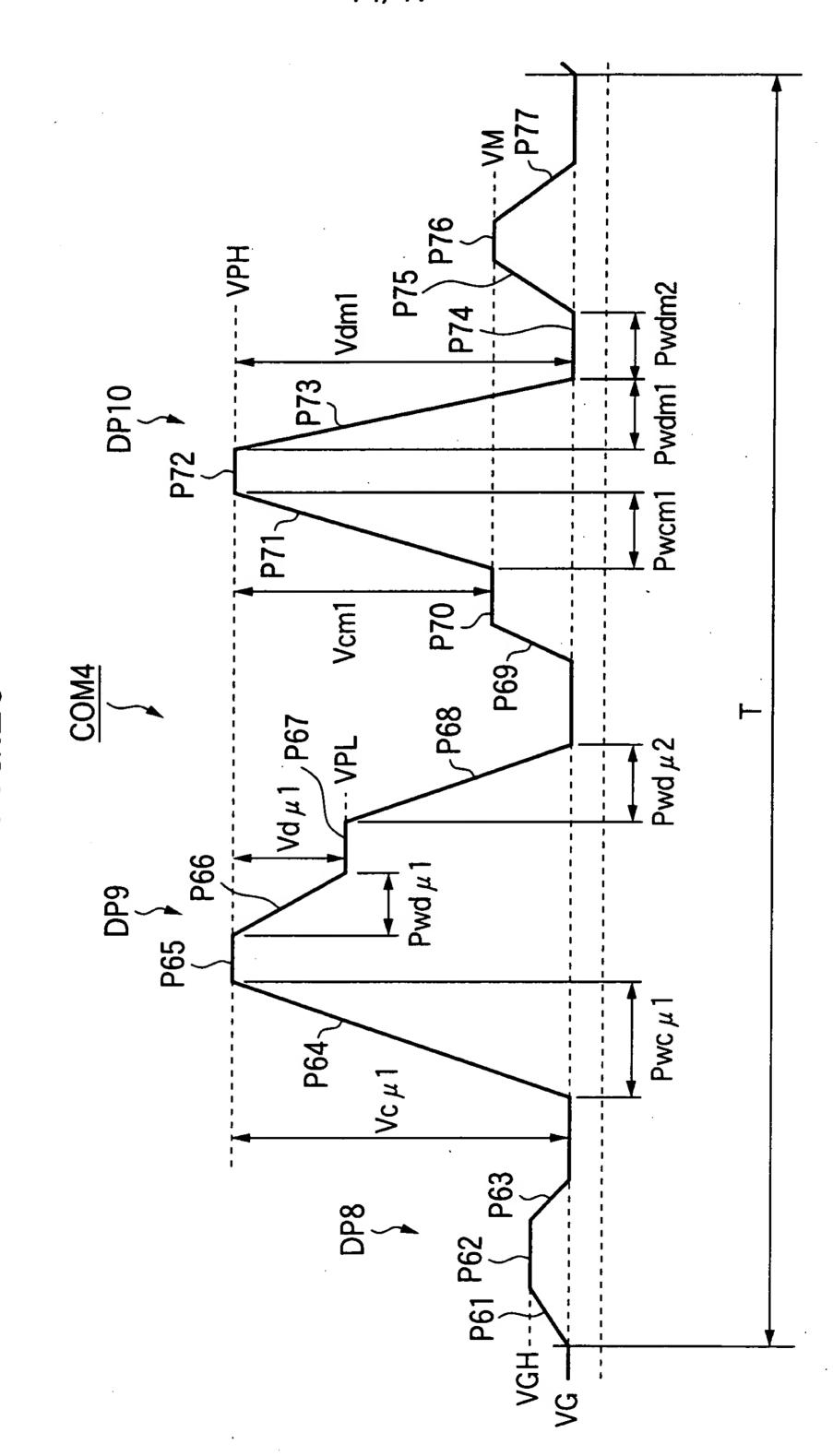
HOSONO, et al.
INK JET RECORDING HEAD, METHOD OF
MANUFACTURING THE SAME, METHOD OF DRIVING
THE SAME, AND INK JET RECORDING APPARATUS
INCORPORATING THE SAME
Filed: December 6, 2001
Darryl Mexic
13 of 17

13/17



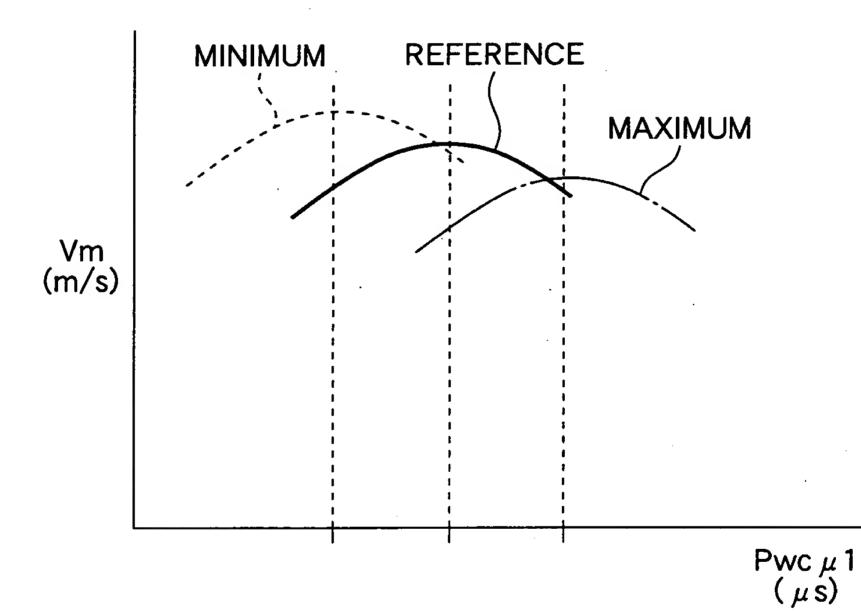
HOSONO, et al. Q66059
INK JET RECORDING HEAD, METHOD OF
MANUFACTURING THE SAME, METHOD OF DRIVING
THE SAME, AND INK JET RECORDING APPARATUS
INCORPORATING THE SAME
Filed: December 6, 2001
Darryl Mexic 202-293-7060
14 of 17

14/17



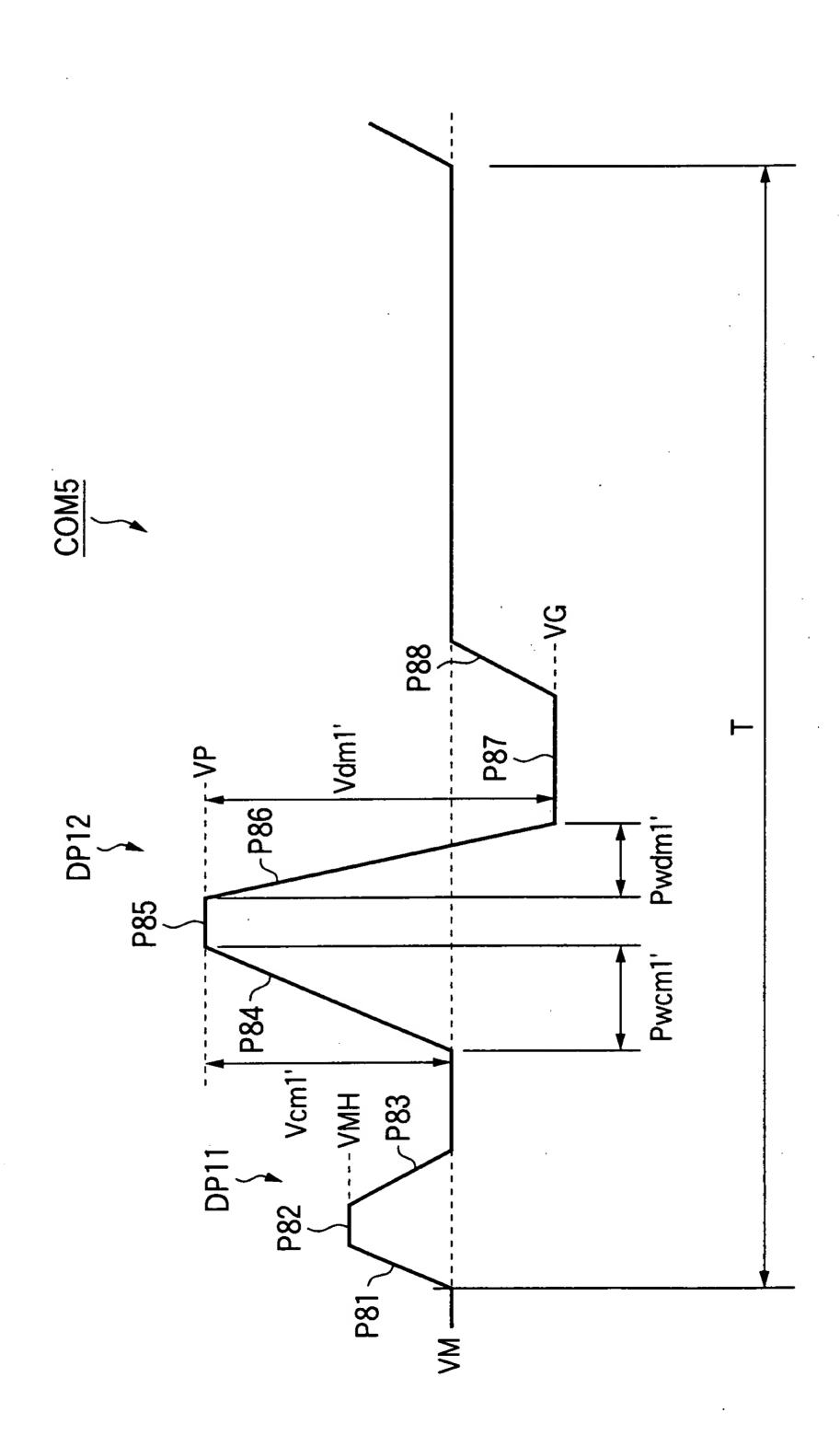
HOSONO, et al. Q66059
INK JET RECORDING HEAD, METHOD OF
MANUFACTURING THE SAME, METHOD OF DRIVING
THE SAME, AND INK JET RECORDING APPARATUS
INCORPORATING THE SAME
Filed: December 6, 2001
Darryl Mexic 202-293-7060
15 of 17

FIG.21



HOSONO, et al. Q66059
INK JET RECORDING HEAD, METHOD OF
MANUFACTURING THE SAME, METHOD OF DRIVING
THE SAME, AND INK JET RECORDING APPARATUS
INCORPORATING THE SAME
Filed: December 6, 2001
Darryl Mexic 202-293-7060
16 of 17

16/17



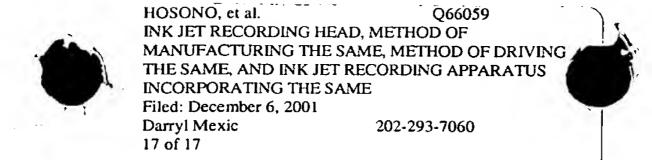


FIG.23

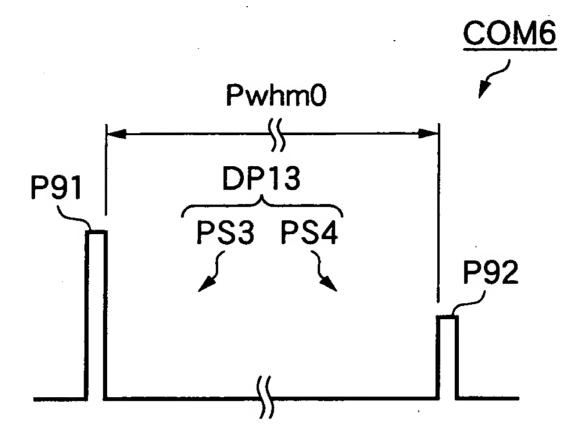


FIG.24

